REMARKS

Favorable reconsideration of this application, in view of the present amendments and in light of the following discussion, is respectfully requested.

Claims 1-2, 4-5, 7-17 are pending. Claims 1, 4, 16 and 17 are amended. No new matter is introduced.[1]

In the outstanding Office Action, Claims 1-2, 4-5, 7-9 and 12-17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Eberbach (U.S. Patent No. 4,885,782) in view of Fujita (U.S. Patent No. 5,812,685) and Rhee (U.S. Patent No. 5,805,715); Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Eberbach, Fujita, Rhee and Packard (U.S. Patent No. 7,035,417); and Claim 11 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Eberbach, Fujita, Rhee and Hirade (U.S. Patent No. 7,119,267).

With regard to the rejection of Claims 1-2, 4-5, 7-9 and 12-17 as being unpatentable over Eberbach, Fujita and Rhee, Claim 1 is amended to recite, *inter alia*, an audio signal processing apparatus adapted for delivering an audio signal to a speaker system, where the audio signal processing apparatus includes:

> a first filter configured to filter at least one input signal to generate the filtered signal, the first filter supplying the filtered signal to the FIR filter, the first filter having a transmission characteristic to localize a sound image origin at arbitrary positions. (Emphasis added.)

The primary reference, Eberbach, generally describes a loud speaker driver that compensates for the relative positioning of a high frequency driver with respect to a low frequency driver.[2] Specifically, Eberbach illustrates a symmetric driver arrangement including low frequency drivers (22, 24) and a high frequency driver (26) interconnected by a

[1] Non-limiting support for the amended claims may be found at least at page 33 of the application as originally filed.
[2] Eberbach at column 1, lines 18-45.

crossover circuit (28) and a delay (30) that provides wide-angle dispersion of sound with accurate phase response.[3]

Further, Fujita generally describes a polyhedron speaker system that reproduces sound in a spherical pattern.[4] Fujita describes the polyhedron speaker system as including an DSP (6) to implement a digital filter that corrects distortion inherent in each of the individual speakers.[5]

However, as acknowledged on pages 3-4 of the outstanding Office Action neither Eberbach or Fujita, individually or in combination, describe the claimed first filter. To remedy this deficiency, the outstanding Office Action combines Eberbach and Fujita with Rhee.[6]

Rhee generally describes a method of compensating acoustic signal distortion in a speaker in order to match the auditory characteristics of humans.[7] In this regard, Rhee describes filter portions (30, 40 and 50) that compensates for distortion included in the first, second and third frequency bands of the acoustic signal.[8] Rhee also describes that the first filter portion (30) includes an FIR filter that equalizes the acoustic signal of the audible frequency band, and that the second filter portion (40) includes first and second low pass filters (41 and 45) that pass acoustic signals equal to or less than 5.4 kHz.[9] Rhee describes that such filtering compensates for linear distortion in the acoustic signal by exploiting the characteristics of the human ear.[10]

However, Rhee does not describe that the filters (30, 40 and 50) implement a transmission characteristic that localizes the origin of a sound image away from the speaker

[3] Eberbach at column 3, lines 34-45 and Figures 2-3.
[4] Fujita at column 5, lines 34-58.
[5] Fujita at column 6, lines 19-37 and also Figure 4.
[6] See the outstanding Office Action at page 4.
[7] Rhee at column 2, lines 10-20.
[8] Rhee at column 5, lines 58-63.
[9] Rhee at column 5, line 58 - column 6, line 11.
[10] Rhee at column 2, lines 22-27 and column 3, lines 50-65.

system at an arbitrary position. Instead, Rhee merely describes that the filters (30, 40 and 50) compensate for linear distortion in the speaker system and matches the audio output therefrom to the characteristics of the human ear.[11] Nowhere, however, does Rhee describe that localizing the acoustic signal from the speaker system, much less using the filters (30, 40 and 50) to localize an origin of the acoustic signal at a location other than the speaker system itself. Conversely, amended Claim 1 recites that a first filter filters that has a transmission characteristic that localizes a sound image *origin* at arbitrary positions. Therefore, Rhee fails to disclose the claimed first filter and does not cure the above-noted deficiencies in Eberbach and Fujita. Accordingly, no combination of Eberbach, Fujita and Rhee describe every feature recited in amended claim 1, and amended Claim 1 is believed to be in condition for allowance, together with the claims depending therefrom.

Moreover, amended Claims 4, 16 and 17 recite features substantially similar to amended Claim 1 and are believed to be in condition for allowance, together with any claim depending therefrom, for substantially similar reasons. Accordingly, it is respectfully requested that the rejection of Claims 1-2, 4-5, 7-9 and 12-17 under 35 U.S.C. § 103(a) be withdrawn.

[11] Id.

For the reasons discussed above, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal allowance. Therefore, a Notice of Allowance for Claims 1-2, 4-5 and 7-17 is earnestly solicited.

Respectfully submitted,

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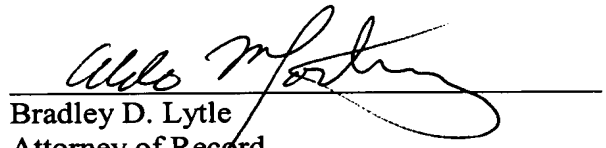

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